

Which Excellence Programs in Mathematics and the Sciences Operate in Middle Schools?

Abstract based on a mapping by Social Finance Israel

Many middle schools in Israel have been running excellence programs in mathematics and the sciences in recent years. As a result, there is an abundant range of programs, however it seems they reach a rather limited number of students. There are governmental, municipal and school programs and there are those run by non-profits, academic institutions and corporations. Their stated objective is to offer content and enrichment to outstanding students who are eager to learn more.

The Trump Foundation's roadmap in middle school aspires to help expand the opportunities for as many capable and willing students to learn at a level of excellence. In its portfolio, the foundation encourages the opening of new excellence classes, so as 40% of ninth grade students would be able to graduate them. Currently, as the foundation's team and its partners are meeting the diverse realities on the ground, we turned to Social Finance Israel in order to sort out and catalogue the existing menu of excellence programs and to offer their insights.

Main findings

1. There are three archetypes of "excellence programs" operating in middle schools: homeroom classes, supplemental programs and external programs. A rough estimate of the proportion of students participating in excellence programs is 15% of an entire grade-level in middle school. Data is not routinely collected by the Ministry of Education and therefore, there is no organized classification of these programs and no systematic picture that is presented to decision makers.
2. Three main programs are run in homeroom classes: the Scientific Technology Program (270 schools), MOFET (160 schools) and Nachshon (52 schools). These programs make use of an admissions process with a high bar, accepting only 15,000 students annually (out of about 110,000 in each grade-level). Teaching and learning take place in homeroom classes as part of the regular school schedule, with dedicated content, teachers and additional teaching hours.
3. Twenty-six supplemental programs were identified (there are apparently more) which are run in schools for a dedicated group of students and focus on a specialized topic. These programs are offered to specific students (about 25,000 students per grade) and they generally take place at the beginning or end of the school day or after school. The duration of study in these programs varies, as do the scope and frequency, which are dependent on the program and the school.
4. External programs include enrichment, enhancement and acceleration activities for outstanding students. These activities are run by external, academic and private expert entities with some coordination with the school, which occasionally recommends suitable students. Learning takes place after school and generally not in the school building.
5. During the COVID-19 period, a variety of online courses for independent learning became popular. Such frameworks were operating in a limited scope in recent years and now they have a growing demand. In addition, there are special programs for highly gifted students, as well as one-time, limited-time courses and programs, such as competitions and contests.